## **CONTENTS OF VOLUME 45**

# Number 1

S. F. Patil, A. V. Borhade and Munmun Nath	1	Diffusivity of zinc and cobalt ions in aqueous electrolyte solutions
Bradley M. Palmer and Joseph J. McInerney	5	Optimization of energy window limits for photopeak detection systems
F. Lambert and G. Slegers	11	Preparation of bromine-77 labeled proteins using bromoperoxidase
E. P. Mignonsin	17	Determination of half-lives by $\gamma\text{-ray}$ spectrometry: improvement of procedure and precision
Thomas Chaly, Dibyendu Bandyopadhyay, Ralph Matacchieri, Abdelfatihe Belakhleff, Vijay Dhawan, Shugo Takikawa, Donald Margouleff and David Eidelberg	25	A disposable synthetic unit for the preparation of 3-O-methyl-6-[18F]fluorodopa using a regioselective fluorodemercuration reaction
Linda V. E. Caldas, Maria Da Penha P. Albuquerque and Marcos Xavier	31	Calibration techniques for components of clinical dosemeters
M. V. R. Prasad, D. S. Suryanarayana and R. K. Jeevanram	35	A simple non-distillation method for the estimation of Ru-106 in urine
M. Nakayama, T. Terahara, R. Ikeda, M. Wada, T. Koiso, Y. Kimura, K. Harada, A. Sugii, S. Tomiguchi, A. Kojima, M. Hara, R. Nakajima, Y. Ohyama and M. Takahashi	41	Characterization of insoluble macromolecular $Sn(II)$ complex and its application to the $^{99m}Tc$ labeling of human serum albumin-bearing mercapto groups
Masao Takano and Yoshio Fukao	49	ESR dating of pleistocene fossil shells of the Atsumi group, Central Honshu, Japan: on the discrepancy in TD value among different ESR peaks
Rensuke Goto and Yuko (Daicho) Ibuki	57	Tissue distribution of liposomes prepared from synthetic amphiphiles after intraperitoneal injection into mice
Yolanda Zea-Ponce, Ronald M. Baldwin, Sami S. Zoghbi and Robert B. Innis	63	Formation of 1-[ $^{123}$ I]iodobutane in labeling [ $^{123}$ I]iomazenil by iododestannylation: implications for the reaction mechanism
William R. Banks, Martin R. Satter and Dah-Ren Hwang	69	A new method for the NCA production of $[^{18}\text{F}]\text{fluoromethane}$
William R. Banks, Ronald D. Borchert and Dah-Ren Hwang	75	Improvements in the production of fluorine-18 labeled butyrophenone neuroleptic agents
A. Grau Carles	83	A new linear spectrum unfolding method applied to radionuclide mixtures in liquid scintillation spectrometry
Marc S. Berridge, Emily H. Cassidy and Kirk G. Bordeaux	91	Preparation of [11C]triamcinolone acetonide
B. E. Francis, C. Swain, V. Sabin and H. D. Burns	97	Radioiodinated L-703,606: a potent, selective antagonist to the human $NK_1$ receptor
R. Gail and H. H. Coenen	105	A one step preparation of the n.c.a. fluorine-18 labelled synthons: 4-fluorobromobenzene and 4-fluoroiodobenzene
Toshiyuki Nakajima	113	Estimation of absorbed dose to evacuees at Pripyat-city using ESR measurements of sugar and exposure rate calculations
James E. Martin and Michael D. K. Liaw	121	Correction of Fe-55 activity measurements due to interference of other low energy photon emitters

129 Computation of activities induced by 14 MeV neutrons for the elemental analysis of human tissues, skin and tooth enamel

R. S. Khanchi, S. L. Bansal, S. Aggarwal, Shashi Khurana and R. K. Mohindra Amon R. Wafelman, Cornelis A. Hoefnagel,

Robert A. A. Maes and Jos H. Beijnen N. Nath, E. Rauhala, O. P. Dahinwal,

Anita Rani, J. Räisänen and A. K. Gupta N. S. Rajurkar (née N. G. Adhyapak) and

Laurence Bordenave, Philippe Revel, Charles Baquey and Dominique Ducassou

M. J. Faras

Gerard Janvier, Josseline Caix,

and Chizuo Mori

Ashur R. Abdunnabi and

Ashur R. Abdunnabi and

and A. Rydl

Horng-Jye Chiou

Hiroshi Miyahara, Hiroki Matumoto

A. Chatterjee and A. K. Chatterjee

Marta Wasilewska-Radwanska

Marta Wasilewska-Radwanska

F. Tárkányi, F. Szelecsényi, P. Kopecký, T. Molnár, L. Andó, P. Mikecz, Gy. Tóth

Chu-Fang Wang, Jeng-Horng Lee and

C. Hradecny, T. Tethal, I. M. Yermolayev, S. G. Zemlyanoi and P. Zuzaan

J. Swarup

Δ

#### Contents of Volume 45 133 Doses from radiocesium and 40K activities found in some tobacco John Justice Fletcher leaves and cigarettes 135 Book Reviews 139 Events Number 2 III Editorial David M. Taylor Role of energy migration in an organic liquid scintillator system in G. H. Malimath and G. C. Chikkur 143 the 20-70°C temperature range Radioiodination of 2'-deoxyuridine: preparation and preliminary P. Goethals, W. Lodewyckx, M. van Eijkeren 149 and R. Dams evaluation in tumour-bearing rats 155 Burnup calculations to estimate the effect of chemical shim M. A. W. Mondal and M. Doroudian "boron" on the production and depletion of heavy isotopes in a **PWR** B. R. Kerur, S. R. Thontadarya 159 Anomalous x-ray attenuation coefficients around the absorption and B. Hanumaiah edges using Mn K, and Cu K, x-rays Ryoko Fujiyoshi, Tosiyuki Okamoto 165 Behavior of radionuclides in the environment-II. Application of and Meiseki Katayama sequential extraction to Zn(II) sorption studies Haimanti Chakrabarti Cation diffusion coefficients in CsCl-H2O system over the concentration range 0.009 to 10.00 M · dm<sup>-3</sup> at 25°C E. M. Field, V. R. Switsur and 177 An improved technique for the determination of oxygen stable J. S. Waterhouse isotope ratios in wood cellulose

analysis

175 Yb

samples

medicine

Drift effect

201

219

229

233

A comparison of the radiochemical stability of different iodine-131

labelled metaiodobenzylguanidine formulations for therapeutic use

Determination of concentration levels of different elements in

various industrially important alloys by thermal neutron activation

Variation in intensity of transmitted multiple-scatter gamma rays

An ex vivo original test using radiotracers for evaluating

Precise measurement of the gamma-ray emission probability for

Study of the influence of geometry and energy of primary x-rays

on the grain size effect in XRF analysis of intermediate thickness

Cross sections of proton induced nuclear reactions on enriched

111Cd and 112Cd for the production of 111In for use in nuclear

Rapid determination of Sr-89/Sr-90 in radwaste by low-level

257 Isotope separation of <sup>22</sup>Na and <sup>24</sup>Na by using the Light Induced

with graphite added laterally around a 279.2 keV source

haemocompatibility of tubular biomaterials

225 Development of a uniform efficiency photon detector

Effect of mass loading heterogeneity in the XRF

background beta counting system

191 Ion beam analysis of high temperature superconducting samples

Tec	hnical	Note	2	
M.	Gaber	and	A.	Faied

- M. R. Chaar, P. Dufek, J. Favre-Bonvin, P. G. Landais, D. Le Bars, G. Galy and M. Porthault
- T. Yassine and I. Othman
- H.-J. Helmeke, T. Harms, K.-H. Matzke, G.-J. Meyer and H. Hundeshagen

Events

# 261 Monte Carlo calculations of energy and angular distributions of transmitted and backscattered neutrons of 15 MeV incident energy

- 267 Identification of 2-chloro-2-deoxyglucose (2-ClDG) and D-glucose as impurities formed in the synthesis of 2-[<sup>18</sup>F]fluoro-2-deoxyglucose (2-<sup>18</sup>FDG)
- 271 A simple method for the rapid assessment of the half-lives of short-lived radionuclides
- 274 Routine production of [13N]NH<sub>3</sub> for PET examinations with a continuous flow water target

277

### Number 3

Y. N	lagame,	S.	Baba	and	T.	Saito
------	---------	----	------	-----	----	-------

- C. R. Appoloni and E. A. Rios
- S. N. Muddukrishna, A. Chen, T. R. Sykes and A. A. Noujaim
- Toyosaburo Takeuchi, Atsuo Mori, Masao Matsuyama and Osamu Takayasu
- J. Goswamy, A. Sharma, D. Mehta, B. Chand, N. Singh and P. N. Trehan
- Hisao Yamamoto, Toshiyuki Norimura and Akira Katase
- R. Fresca Fantoni, E. Gadioli, P. Guazzoni, P. Vergani, L. Zetta, P. L. Dellera, F. Tomasi, V. Campagna, G. Ciavola and C. Marchetta
- A. Das and S. N. Changdar
- Yoshio Homma, Yuko Murase and Keiko Handa
- Ian Harrison and Jennifer J. W. Higgo
- Maria-Anna Kim and Franz Baumgärtner
- Alain Plenevaux, M. J. Al-Darwich, Christian Lemaire, Guy Delfiore and Dominique Comar

Technical Notes

- D. F. Regulla, H. Y. Göksu, A. Vogenauer and A. Wieser
- B. Singh and H. W. Taylor
- S. K. Zeisler, T. J. Ruth and M. P. Rektor
- G. S. Bhandal, K. Singh, Rama Rani and Vijay Kumar

Book Review

Abstracts of the VIII National Conference on Research in Radiochemistry, Nuclear Chemistry, Radiation and Radioelements

- 281 Isomeric yield ratio for the 95Mo (p,n) 95mg Tc reaction
- 287 Mass attenuation coefficients of Brazilian soils in the range 10-1450 keV
- 293 Indirect iodometric procedure for quantitation of Sn(II) in radiopharmaceutical kits
- 301 Separation of tritium by decomposition reaction of tritiated water with Raney alloys
- 309 Study of 82Br decay
- 317 Angular distributions of low-energy  $\beta$ -rays emitted from a sealed source
- 325 RERAME: a facility for investigating heavy ion reactions with activation techniques
- 335 Interdiffusion coefficients of thallous sulphate and orthophosphoric acid in H<sub>2</sub>O and D<sub>2</sub>O at 35°C by a radioactive tracer technique
- 341 The zero detection threshold of a liquid scintillation spectrometer and its application to liquid scintillation counting
- 345 The preparation of 125I-labelled sodium polystyrene sulphonate
- 353 Equilibrium and non-equilibrium partition of tritium between organics and tissue water of different biological systems
- 361 Enantioselective syntheses of n.c.a. (S)-L-[ $\beta$ -11C]-4-chlorophenylalanine and (S)-L-( $\alpha$ -methyl)-[ $\beta$ -11C]-4-chlorophenylalanine
- 371 Retrospective dosimetry based on egg shells
- 374 Half-lives of microsecond isomers in 151 Eu and 181 W
- 377 A photodiode radiation detector for PET chemistry modules
- 379 Energy absorption coefficients for 662 and 1115 keV gamma rays in some fatty acids

383

385

Events

Announcement

405

### Number 4

- B. Holyńska, J. Ptasiński and D. Wegrzynek
- A. Dash and P. K. Bhattacharvva
- J. van Aarle, W. Westmeier, R. A. Esterlund and P. Patzelt
- Mieczysław Mielcarski, Marek Poniński and Urszula Lorens
- Chun-Nan Hsu and Kwo-Ping Chang
- Kiichi Ishiwata, Hiroyuki Seki, Kenji Ishii, Shin-ichi Ishii, Tadashi Nozaki and Michio Senda
- N. Z. Darwish, O. M. Hemeda and M. I. Abd El-Ati
- F. Vera Tomé, M. Jurado Vargas and A. Martín Sánchez
- E. I. Vapirev, D. Sueva, V. Spassov, N. Chikov and I. Ivanov
- A. Grau Carles, A. Grau Malonda and L. Rodriguez Barquero
- S. M. N. Efange, R. H. Mach, A. Khare, R. H. Michelson, P. A. Nowak and P. H. Evora
- Ferenc Szelecsényi, Thomas E. Boothe, Emanuel Tavano, Michael E. Plitnikas and Ferenc Tárkányi
- Miho Tanaka, Yoshitaka Minai, Tokuko Watanabe and Takeshi Tominaga
- Masaharu Numajiri, Yuichi Oki, Takenori Suzuki, Taichi Miura, Masafumi Taira, Yukio Kanda and Kenjiro Kondo
- Kjell Någren, Karl-Olof Schoeps, Christer Halldin, Carl-Gunnar Swahn and Lars Farde
- Technical Notes
  Sudarshan Saimbi, Ruth Butter
  and David Andrews
- A. Wieser, E. Haskell, G. Kenner and F. Bruenger
- D. Tan and B. Heaton
- William W. Wong, David L. Hachey, Lucinda L. Clarke, Shide Zhang, Marisol Llaurador and Wilson G. Pond

- 409 Software for fundamental parameter method in energy dispersive x-ray fluorescence analysis of intermediate thickness samples
- 415 Preparation of a 90 Sr-90 Y generator using zirconium antimonate
- 419 <sup>227</sup>Ac: a suggested long-lived multiple-line gamma-ray calibration standard
- 429 Electrolytic composite plating as a method of [90 Sr]strontium fixing for the preparation of radiation sources
- 433 Sorption and desorption behavior of cesium on soil components
- 439 Synthesis and in vivo evaluation of [11C]semotiadil, a benzothiazine calcium antagonist
- 445 Effect of <sup>60</sup>Co γ-radiation damage on the structural and dielectric properties of Co-Zn ferrite
- 449 Yields and losses at each step in preparing uranium and thorium samples for alpha spectrometry
- 453 Detection of  $\beta$ -particles, conversion electrons and  $\gamma$ -rays with silicon planar detectors
- 461 Standardization of 125I, 85Sr and 109Cd by CIEMAT/NIST method
- 465 p-[18]Fluorobenzyltrozamicol ([18F]FBT): molecular decomposition-reconstitution approach to vesamicol receptor radioligands for positron emission tomography
- 473 Compilation of cross sections/thick target yields for <sup>66</sup>Ga, <sup>67</sup>Ga and <sup>68</sup>Ga production using Zn targets up to 30 MeV proton energy
- 501 Mössbauer and ESR study of the effect of acid sites on formation of phthalocyanineiron(II)-pyridine adduct in zeolite supercage
- 509 Estimation of nickel-63 in steel and copper activated at high-energy accelerator facilities
- 515 Selective synthesis of racemic 1-11C-labelled norepinephrine, octopamine, norphenylephrine and phenylethanolamine using [11C]nitromethane
- 523 Uptake of 99mTc by epoxy resin adhesives
- 525 EPR dosimetry of bone gains accuracy by isolation of calcified tissue
- 527 Simple empirical relations for electron CSDA range and electron energy loss
- 529 An improved HPLC method to purify erythrocyte cholesterol for estimation of in vivo cholesterol synthesis using the deuterium method

Events

14

535

# Number 5

G. M. Milton, S. J. Kramer, R. J. E. Deal and E. D. Earle	539	Ultra trace analysis of acrylic for <sup>232</sup> Th and <sup>238</sup> U daughters
Domenica Tonelli, Sergie Zappoli and Mario Marengo	549	Determination of radiochemical purity of technetium-99m-labelled complexes by TLC
Yuichi Oki, Masaharu Numajiri, Takenori Suzuki, Yukio Kanda, Taichi Miura, Kazuhiko Iijima and Kenjiro Kondo	553	Particle size and fuming rate of radioactive aerosols generated during the heat cutting of activated metals
Michael D. Herr and Joseph J. McInerney	563	A line-focus collimator with a field of view of uniform thickness
J. C. Furnari, I. M. Cohen and A. J. Kestelman	573	The fission neutron averaged cross-section of the $^{72}\mbox{Ge}(n,p)^{72}\mbox{Ga}$ reaction
Sepp Seifert, Gerhard Wagner and Armin Eckardt	577	Highly concentrated [99mTc]pertechnetate solutions from $(n,\gamma)$ $^{99}Mo/^{99m}Tc$ generators for nuclear medical use
Graham E. Jackson, Michael J. Byrne, Hashiem Fakier, Roger Hunter and Marianne Woudenberg	581	Technetium-99m labelling of bis-oxime ligands
Jem-Mau Lo, Kuo-Shyan Lin and Chuarn-Yuh Huang	587	Chemical characteristics of 90mTc-labeled amine phenols
William R. Banks and Dah-Ren Hwang	599	NCA F-18 fluoroarylketones: useful bifunctional radiopharmaceutical intermediates
B. Skwarzec, E. Holm, P. Roos and J. Pempkowiak	609	Nickel-63 in Baltic fish and sediments
Roberto Cesareo, Joaquim Teixeira De Assis and Silvio Crestana	613	Attenuation coefficients and tomographic measurements for soil in the energy range $10300\text{keV}$
D. V. Rao, R. Cesareo and G. E. Gigante	621	Measurement of L x-ray fluorescence cross-sections in heavy elements excited by 17.78, 25.88, 26.88 and 32.89 keV photons
Technical Notes H. A. Das	627	Radiotracer investigations of wet granular waste containment
Z. Idiri, R. Khelifi and S. Tobbeche	631	A simple method to correct for pulse pile-up and dead time losses: application to cyclic activation analysis with 14-MeV neutrons
J. L. Iturbe G.	634	
Letter to the Editors Michael T. Azure and Roger W. Howell	637	Simple isolation of polonium-210 from silver
Events	639	
		Number 6
U. Schötzig	641	Photon emission probabilities in the decay of $^{103}\mbox{Ru}/^{103\mbox{m}}\mbox{Rh}$

Number 6			
U. Schötzig	641	Photon emission probabilities in the decay of $^{103}\mbox{Ru}/^{103\mbox{m}}\mbox{Rh}$	
R. Kudynski, J. Kudynska and H. A. Buckmaster	645	The decay constant for irradiated human hair using EPR spectroscopy	
Alain Plenevaux, Christian Lemaire, Guy Delfiore and Dominique Comar	651	Enantioselective synthesis of n.c.a. (S)-L-([ $\alpha$ - $^{11}$ C]methyl)-tryptophan	
A. Grau Carles	655	Standardization of beta and electron-capture nuclides in liquid scintillation gel samples	
Piotr Urbański	659	Principal component and partial least squares regressions in the calibration of nucleonic gauges	

B. R. S. Simpson and B. R. Meyer	669	Standardization and half-life of $^{201}Tl$ by the $4\pi$ (x,e)-y coincidence method with liquid scintillation counting in the $4\pi$ -channel
A. Baeza, M. del Rio, J. M. Paniagua, E. Navarro, M. J. Rodriguez and F. Sanchez	675	Radioactive concentrations of the Livingston Island soils (Antarctica). Dosimetry considerations
C. B. Taylor	683	The relationship between electrolytic deuterium and tritium separation factors, and attainment of improved accuracy in radiometric low-level tritium measurement
Takahisa Kato, Kazumi Saito and Norio Kurihara	693	Self-decomposition components generated from <sup>35</sup> S-labeled amino acids
Yoshio Homma, Yuko Murase and Keiko Handa	699	A modified integral counting method and efficiency tracing method for measuring $^{222}\rm{Rn}$ by liquid-scintillation counting
Takashi Iwashina, Kowichi Jimbow and Leonard I. Wiebe	703	The synthesis of $N$ -acetyl-4- $S$ -cysteaminyl [U- $^{14}$ C]phenol as a basis for the development of an antimelanoma and melanoma-radioimaging agent
Yvonne Andersson, Mats Bergström and Bengt Långström	707	Synthesis of $^{11}$ C-labelled benzamide compounds as potential tracers for poly(ADP-ribose) synthesise
Stefan Guhlke, Heinz H. Coenen and Gerhard Stöcklin	715	Fluoroacylation agents based on small n.c.a. [ $^{\rm 15}{\rm F}$ ]fluorocarboxylic acids
M. E. Kassem, M. A. El-Kolaly and L. I. Al-Houty	729	Gamma-radiation-induced change in the activation energy of TI traps in LiRbSO <sub>4</sub> :Tl
M. Nakayama, H. Saigo, A. Koda, K. Ozeki, K. Harada, A. Sugii, S. Tomiguchi, A. Kojima, M. Hara, R. Nakashima, Y. Ohyama, M. Takahashi, J. Takata and Y. Karube	735	Hydroxamamide as a chelating moiety for the preparation of <sup>99m</sup> To radiopharmaceuticals—II. The <sup>99m</sup> To complexes of hydroxamamide derivatives
Events	741	

# Number 7

R. J. Talbot, D. Newton and S. N. Dmitriev	743	The half-life of <sup>237</sup> Pu
Gary H. Kramer and Colin E. Webber	749	Measurement of the natural uranium content of fabricated, tissue substitute lung sets by dual photon absorptiometry
A. P. Smith, M. I. Darby, N. Tinker and J. B. Taylor	753	Deposition of plutonium nitrate complexes from aqueous liquid onto a stainless steel surface
Toshiyuki Kijima, Hiroshi Suga and Yoshiaki Nakase	759	Depth-dose distributions in a thin-layer absorber irradiated by 300-keV electrons
T. Jin, D. E. Watt and K. Kobayashi	767	Damage induced by monochromatic synchrotron x-rays at the resonance absorption energy of intracellular phosphorous in yeast cells
Göran Westerberg and Bengt Långström	773	Labelling of proteins with $^{11}\mathrm{C}$ in high specific radioactivity: [ $^{11}\mathrm{C}$ ]albumin and [ $^{11}\mathrm{C}$ ]transferrin
A. Kovács, P. Hargittai, L. Kaszanyiczki and G. Földiák	783	Evaluation of multipurpose electron irradiation of packaged and bulk spices
T. D. Utteridge, A. C. Ralston, S. A. Wallace, B. J. Allen and A. H. Beddoe	789	Monte Carlo modelling of neutron depth dose distributions in optimizing prompt gamma in vivo neutron activation analysis systems
Hayes Dougan, Bruce A. Rennie, Donald M. Lyster and Stephen L. Sacks	795	No-carrier-added [123]]1-(β-D-arabinofuranosyl)-5(E)-(2-iodovinyl) uracil (IVaraU): high yielding radiolabeling via organotin and

exchange reactions

Binay Dasmahapatra and Anjali Mukherjee

803 On the EC branching to the ground state of  $^{197}\mbox{Au}$  in the decay of  $^{197}\mbox{Hg}$  (64.1 h)

Technical Notes K. N. Yu, Z. J. Guan, M. J. Stokes and E. C. M. Young	809	A preliminary study on the radon concentrations in water in Hong Kong and the associated health effects
Tjibbe J. De Groot, Anton H. Braker, Philip H. Elsinga, Gerben M. Visser and Willem Vaalburg	811	Synthesis of $6\alpha\text{-}[^{18}\text{F}]\text{fluoroprogesterone} : a first step towards a potential receptor-ligand for PET$
Letter to the Editors Setsuko Shibata and Eiko Kawano	815	Effects of latitude and population density in the growing districts on <sup>14</sup> C content of rice grains
Book Review	817	
Events	819	
		Number 8
Gert Luurtsema, Jitze Medema, Philip H. Elsinga, Gerben M. Visser and Willem Vaalburg	821	Robotic synthesis of L-[1-11C]tyrosine
Issac K. Oommen, S. Sengupta and T. S. Iyengar	829	Lyoluminescence characteristics of lactose
Tien-Ko Wang and Hung-Wen Chang	835	Design of Tsing Hua subcritical facility
Chun-Nan Hsu, Shih-Chin Tsai and Shih-Ming Liang	845	Evaluation of diffusion parameters of radon in porous material by flow-through diffusion experiment
M. P. M. Assunção, R. Pugliesi and M. O. de Menezes	851	Study of the neutron radiography characteristics for the solid state nuclear track detector Makrofol-E
S. K. Luthra, F. Brady, D. R. Turton, D. J. Brown, K. Dowsett, S. L. Waters, A. K. P. Jones, R. W. Matthews and J. C. Crowder	857	Automated radiosyntheses of [6-O-methyl- <sup>11</sup> C]diprenorphine and [6-O-methyl- <sup>11</sup> C]buprenorphine from 3-O-trityl protected precursors
Vijay Kumar, Kawaldeep and K. Singh	875	$K$ -electron capture probability to 165 keV level in the decay of $^{139}$ Ce
B. J. Mincher, R. E. Arbon, W. B. Knighton and D. H. Meikrantz	879	Gamma-ray-induced degradation of PCBs in neutral isopropanol using spent reactor fuel
J. Eriksen and H. Saaby Johansen	889	Correction factors in the determination of natural abundance of stable S isotopes in soil
Technical Notes Heinrich Oehninger and Regin Weinreich	895	Delaying the outlet of short-lived radioactive gases by use of buffer tanks
Noorddin Ibrahim	897	Determination of trace elements in cockle Anadara Granosa L. using INAA
P. Banerji, H. K. Kundu, D. Banerjee and R. Bhattacharya	899	Mass effect in radiation-induced lyoluminescence of sugars
D. du T. Rossouw and J. H. Langenhoven	902	Improved radiosynthesis of 2-[123 I]iodomelatonin
Book Review	905	
Events	907	
		Number 9

P. Zhu, D. Babot, G. Berodias, G. Peix and S. Abbe 909 x-Ray coherent scatter in the determination of thickness of a SiC matrix (10–200  $\mu$ m) surrounding a woven carbon structure N. M. Ibrahiem and M. Pimpl 919 Uranium concentrations in sediments of the Suez Canal

- J. Löttgen, R. Wagner, N. Richerzhagen and K. Wienhard
- C. Krummeich, M. Holschbach and G. Stöcklin
- Eric J. F. Franssen, Gert Luurtsema, Jitze Medema, Gerben M. Visser, C. Margod Jeronimus-Shadengh, Andries P. Bruins and Willem Vaalburg
- V. A. Solé, B. Denecke, D. Mouchel and W. Bambynek
- N. N. Mondal, T. K. Debnath, T. K. Roy, K. D. Saha, B. Alam, M. Sarkar, F. Hennrich, H. Mommsen and A. Lui
- M. Lázníček, A. Lázníčková, F. Budský, J. Prokop and K. Kopička
- E. Schönfeld, U. Schötzig, E. Günther and H. Schrader
- Emin N. Özmutlu and Asuman Aydin

Technical Note
V. Jain and B. L. Gupta

Events

а

- 923 Automatic control device for the continuous administration of <sup>15</sup>O labelled gaseous tracers for PET measurements
- 929 Direct n.c.a. electrophilic radioiodination of tyrosine analogues; their in vivo stability and brain-uptake in mice
- 937 Application of liquid chromatography combined with massspectrometry (LC-MS) to establish identity and purity of PETradiopharmaceuticals
- 941 Measurement of  $P_{\rm K}\omega_{\rm K}$  in the decay of  $^{65}{\rm Zn}$  and the K-shell fluorescence yield of copper
- 945 Determination of arsenic content in the waste sludge from a fertilizer factory of Bangladesh by XRF and EPMA
- 949 Comparison of biological characteristics of EDTMP complexes with <sup>99m</sup>Tc, <sup>111</sup>In and <sup>153</sup>Sm in rats
- 955 Standardization and decay data of 68Ge/68Ga
- 963 Monte Carlo calculations of 50 eV-1 MeV positrons in aluminum
- 973 Effect of impurities in xylenol orange on the spectrophotometric readout method for alanine dosimetry
- 979

### Number 10

- Chun-Nan Hsu, Dai-Chin Liu and Chi-Lung Chuang
- M. T. Teli, L. M. Chaudhari and S. S. Malode
- J. A. Novotny, D. R. Lacaze, M. L. Moore and M. Forsbacka
- Amon R. Wafelman, Monique C. P. Konings, Cornelis A. Hoefnagel, Robert A. A. Maes and Jos H. Beijnen
- S. N. Muddukrishna, P. Jorge, W. Machner, T. R. Sykes and A. A. Noujaim
- Sindre P. Hassfjell and Per Hoff
- S. A. Gerasimov
- K. N. Yu and S. Y. Mao
- Carol Gamblin, Christopher L. Gordon, David C. F. Muir, David R. Chettle and Colin E. Webber
- C. M. Bartle

Technical Notes
M. R. Zaman

- 981 Equilibrium and kinetic sorption behaviors of cesium and strontium in soils
- 987 Attenuation coefficients of 123 keV γ-radiation by dilute solutions of sodium chloride
- 991 Production of millicurie quantities of R5mKr in an aluminum vessel in a 1-megawatt nuclear reactor
- 997 Synthesis, radiolabelling and stability of radioiodinated miodobenzylguanidine, a review
- 1009 An improved method for analysis of technetium radiolabeled antibody by size exclusion HPLC
- 1021 A generator for production of 212Pb and 212Bi
- 1027 Simple and fast method for separating peak doublet
- 1031 Application of high resolution gamma ray spectrometry in measuring radioactivities in drinks in Hong Kong
- 1035 In vivo measurements of bone lead content in residents of Southern Ontario
- 1039 Measurement of the composition of dairy products using the neutron/gamma transmission (NEUGAT) method
- 1047 4-Bromoacetanilide-methanol vapour attacks the paraffin cylinder surrounding the (Ra-Be) neutron source in charge plate collection experiments

Ron Hulst	, Ben L.	Feringa,	
Hilde K	. Siertsen	a, Erik J.	F. Franssen,
Gerben	M. Visser	and Wim	Vaalburg

1049 Quality control of purified [18O] target water using <sup>31</sup>P NMR

# Letters to the Editors

F. M. Nortier, S. J. Mills and G. F. Steyn

1051 Excitation function of the 111Cd(p, n)111m.g In reaction

# F. Tárkányi

1052 Reply by Dr F. Tárkányi to Letter by Dr Nortier et al.

Book Reviews

1053

Events

Events

1055

### Number 11

József Sáfár and László Lakosi	1057	Photoneutron production by bremsstrahlung in the target and the converter
Toomas Rõõm, Georg Liidja and Endel Lippmaa	1061	Temperature and frequency effects in tooth enamel electron spin resonance dosimetry
I. Hall, G. P. Nicholson, T. J. Piper, D. R. Williams and G. Williams	1065	The scavenging of uranyl from phosphate-containing media
S. K. Das, R. Guin and S. K. Saha	1077	Separation of carrier-free tellurium from bulk amounts of tin
S. Shawky, N. Ibrahiem, A. Farouk and A. Ghods	1079	Laser fluorimetric determination of uranium in environmental samples from Nile Delta and adjacent regions
M. C. Lasne, L. Barré, C. Huard, B. Le Secq and M. Collins	1085	Preparation of [ $^{18}$ F]RP 62203, a selective ligand for the study of serotonin receptors (5-HT $_2$ ) by rapid " $in\ situ$ " piperazine formation
Martin R. Satter, Charles C. Martin, Terry R. Oakes, Bradford F. Christian and R. J. Nickles	1093	Synthesis of the fluorine-18 labeled inhalation anesthetics
D. Tan and B. Heaton	1101	Bremsstrahlung intensity and spectrum—theoretical deduction and discussion
Technical Notes		
Mehmet N. Kumru and Özlem Oznür	1113	Investigations of some parameters of the collector chamber method for the determination of radium-226 $$
D. Tan and B. Heaton	1115	Theoretical formula for x-ray intensity spectra from transparent targets
A. A. Tajuddin, S. J. Hu and M. Sakanoue	1117	Continuous measurements of radiation levels along the west coast highway of Peninsular Malaysia

## Number 12

1121

# Radiochemistry and Radionuclide Applications

- F. F. (Russ) Knapp Jr, A. P. Callahan, A. L. Beets, S. Mirzadeh and B.-T. Hsieh
- 1123 Processing of reactor-produced <sup>188</sup>W for fabrication of clinical scale alumina-based <sup>188</sup>W/<sup>188</sup>Re generators

# Radiation Sources and Applications

- F. A. S. Soliman, H. El-Hennawy and K. Marzouk
- 1129 Operation of microwave Gunn devices under the influence of nuclear radiation
- C. Falcucci, F. V. Frazzoli, R. Remetti and U. Delprato
- 1137 x-Ray differential absorptiometry for Pb content evaluation in airborne dust

# Synthesis of Labelled Compounds

- Wilma E. Meijs, Jacobus D. M. Herscheid, 1143 Production of highly pure no-carrier added <sup>89</sup>Zr for the labelling of antibodies with a positron emitter Prans Van Langevelde, Peter J. Van Leuffen, Roel Mooy and Herbert M. Pinedo
- Richard A. Ferrieri, David L. Alexoff,
  David J. Schlyer and Alfred P. Wolf

  1149 Remote processing, delivery and injection of H<sub>2</sub>[150] produced from a N<sub>2</sub>/H<sub>2</sub> gas target using a simple and compact apparatus
- Lixin Lang and William C. Eckelman

  1155 One-step synthesis of <sup>18</sup>F labeled [<sup>18</sup>F]-N-succinimidyl 4(fluoromethyl)benzoate for protein labeling

# Radioactivity and Radiation Measurements

- R. Collé, Zhichao Lin, J. M. R. Hutchinson and F. J. Schima
  1165 Delayed isomeric state in <sup>205</sup>Pb and its implications for 4πα liquid scintillation spectrometry of <sup>209</sup>Po
- David T. Baran 1177 Measurement of Pu γ-ray intensities between 148 and 161 keV
- Z. Stuglik, J. Michalik, W. Stachowicz,
  K. Ostrowski, I. Zvara and
  A. Dziedzic-Goclawska
  Bone powder exposed to the action of <sup>12</sup>C and <sup>25</sup>Mg ion beams as investigated by electron paramagnetic resonance spectroscopy
- Jiunn-Hsing Chao

  1189 252Cf as an isotopic neutron source for elemental analysis by neutron inelastic scattering: comparison with 241Am-Be
- A. A. Romanyukha, D. Regulla, E. Vasilenko
  and A. Wieser

  South Ural nuclear workers: comparison of individual doses from retrospective EPR dosimetry and operational personal monitoring
- Technical Note

  D. K. Koul

  1201 Plateau identification in thermoluminescence studies
- Events 1207

